

**REMARKS**

Reconsideration and allowance in view of the foregoing amendments and the following remarks is respectfully requested.

Claims 1-15 remain pending in the application.

***Claim Rejections – 35 USC § 102***

Claims 1-3, 5-7, 10 and 12 are rejected under 35 USC §102(b) as being anticipated by Yntema et al. (US Patent 3,862,803). In response, Claim 1 is amended to recite the limitation "only two counterpropagating optical modes can propagate in opposite directions at the same time one with respect to the other inside said optical cavity" and thus is believed to be patentable over Yntema et al, for the reasons discussed below.

In Yntema, four counterpropagating optical modes can propagate in the ring laser (see abstract and figure 6), but only two modes can propagate in opposite directions at the same time one with respect to the other inside said optical cavity in accordance with the invention as defined in amended Claim 1. In Yntema, the amplifying laser medium is Helium-Neon (see column 9, line 40). Helium-Neon is a gaseous amplifying medium and not a solid-state amplifying medium as claimed. Furthermore, in Yntema, the gyro system comprises a temperature control circuit 34 which delivers heat to the shielding 32 and not to quartz crystal 28 or to the Faraday cell 25. Therefore, in Yntema, the gyro system cannot exhibit a nonreciprocal or a reciprocal effect as claimed in the present invention. In Yntema, although the gyro system comprises a control circuit 23, the control circuit 23 of the gyro system of Yntema fails to have the same function for feedback as claimed. Feedback is constantly provided to slave the intensity of the two counterpropagating modes to a common value (see description).

Based on the above reasons, the amended Claim 1 is neither anticipated by nor obvious over the gyro system of Yntema et al, and is believed in the condition for allowance. Claims 2-3, 5-7, 10 and 12 recite additional , important limitations and

should be patentable for the reasons advanced above with respect to the amended Claim 1 as well as on their own merits.

Claims 1, 8, 9 and 14 are rejected under 35 USC §102(b) as being anticipated by Aronowitz (US Patent 3,867,034). ). In response, Claim 1 is amended as noted above and is believed to be patentable over Aronowitz for the reasons discussed below.

In Aronowitz, the amplifying laser medium is probably Helium-Neon. That is to say, in 1973 when Aronowitz was filed, it was impossible to use a solid-state medium to realize laser angular rate sensor. Further, in Aronowitz, there is no feedback system allowing the intensity of the two counterpropagating modes to be kept almost the same. The laser sensor described in Aronowitz comprises a high frequency voltage source 66 which provides a cyclic output voltage (column 6, lines 58-59). However, to be a feedback system, the amplitude or the frequency of the source would be variable and dependent of the evolution of the features of the laser. Accordingly, the high frequency voltage source is not a feedback system. ). Accordingly, the invention as defined in amended Claim 1 is neither anticipated by nor obvious over the gyro system of Aronowitz and is believed in the condition for allowance. Claims 8, 9 and 14 recite additional, important limitations and should be patentable for the reasons advanced above with respect to the amended Claim 1 as well as on their own merits.

### ***Claim Rejections – 35 USC § 103***

Claims 4, 11, 13 and 14 are rejected under 35 USC §103(a) as being unpatentable over Yntema et al. (US Patent 3,862,803) in view of Nilsson (US Patent 5,177,764).

Applicant respectfully traverses this rejection. Claims 4, 11, 13 and 14 is dependent on Claim 1 and recite additional, important limitations and should be patentable for the reasons advanced above with respect to the amended Claim 1 as well as on their own merits.

Claim 15 is rejected under 35 USC §103(a) as being unpatentable over Yntema et al. (US Patent 3,862,803) in view of Brasseur et al. (US Patent 6,731,423 B1).

Applicant respectfully traverses this rejection. Claim 15 is dependent on Claim 1 and recites additional, important limitations and should be patentable for the reasons advanced above with respect to the amended Claim 1 as well as on their own merits.

### ***Double Patenting***

Claim 1 is provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 1 of co-pending Application No. 10/582,629.

Applicant respectfully submits that Claim 1 of the present application is believed distinguishable and non-obvious over Claim 1 of co-pending Application No. 10/582,629. For example, Claim 1 of the present application requires an optical assembly including a device exhibiting a nonreciprocal effect that acts on the polarization state of the counterpropagating modes. Therefore, the Examiner's provisional obvious double patenting rejection is provisionally traversed as being improper and should be withdrawn. Further, since these rejections are merely provisional, it is not until one of the two applications has assumed an allowable form that the claims can be effectively compared and the need for a terminal disclaimer can be accurately ascertained.

All objections and rejections having been addressed, it is respectfully submitted that the present application should be in condition for allowance and a Notice to that effect is earnestly solicited.

Early issuance of a Notice of Allowance is courteously solicited.

The Examiner is invited to telephone the undersigned, Applicant's attorney of record, to facilitate advancement of the present application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,

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A handwritten signature in cursive script, reading "Kenneth M. Berner".

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